ELSEVIER

Available online at www.sciencedirect.com

SciVerse ScienceDirect

Procedia Environmental Sciences 12 (2012) 243 – 251

Procedia Environmental Sciences

2011 International Conference on Environmental Science and Engineering (ICESE 2011)

Analysis on Investment Environment of Mining Industry in China

Changhai Wang, Yali Wen*， Feng Han

College of Economics and Management, Beijing Forestry University, Beijing ,100083,China
**wangchanghai1982@163.com*

Abstract

These Mining is ranked as the fifth largest industry in the world. This paper researches the role and impact of TNCs in global mining industry. It analyses the investment environment of mining industry in China as a case to reflect how a government can alter their policy and institutional framework to cope with recent changes in the industry as well as attract more TNCs to invest into its country while protecting and persuading a sustainable development.

Keywords: Investment Environment; Mining Industry; FDI; China

1. Introduction

Mining is ranked as the fifth largest industry in the world. As a resource- intensive and environmentally sensitive industry, it can help to accelerate the economic development of once country at the beginning of industrialization. Foreign direct investment is continuing to expand into those countries which are rich at minerals[1]. Transnational corporations in developed countries remain the predominant sources of outward FDI while major targets of these investments are developing countries. The objective of TNCs in the mining industry is to get the direct control over the mineral resources which are served as the input of the growing manufacturing and infrastructure-related industries in their home countries. In the recent years, government of developing countries have changed their laws and regulation, offered tax concessions and sold state-owned mines to attract foreign investors. From early of 1990s, 70 countries (31 from Africa) have opened the doors to international mining corporations [2].

 doi:10.1016/j.proenv.2012.01.273

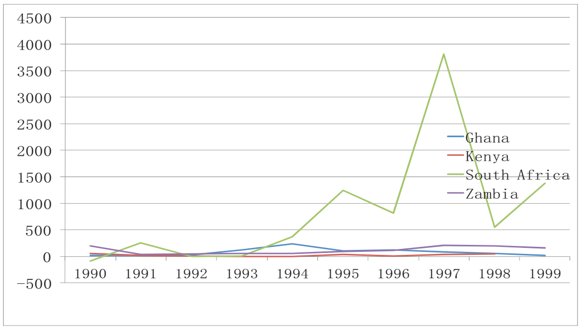
However, in many countries, the massive FDI has not been translated into positive performance of the overall economy for a lack of linkage between the mining sector and the rest of the economy. Moreover, due to its nature, mining has significant impacts on environment and social life of the host countries: massive vegetation clearance and land excavation, waste disposal, decline in air quality, loss of ecological biodiversity, etc. The reasons of those adverse impacts are the non-renewable natural resource using and the profit maximizing intention of transnational corporations [3].

This paper researches the role and impact of TNCs in global mining industry. It analyses the investment environment of mining industry in China as a case to reflect how a government can alter their policy and institutional framework to cope with recent changes in the industry as well as attract more TNCs to invest into its country while protecting and persuading a sustainable development.

2. Role and Impact of TNCs in Mining industry

2.1 FDI trends

The last decade has witnessed a massive of FDI (Foreign Direct Investment) from developed countries to developing countries and less developed countries (LDCs) in extractive industries. Mining industry has been receiving largest part of FDI in sub-Saharan Africa countries. Absolute level of FDI to Africa increased from US$923 million from 1990 to US$ 7949 million in 1999 [3]. **Figure 1** illustrated the FDI flow to selected sub-Saharan countries.



Source: OECD, 2002a

Figure 1: FDI flows to selected sub-Saharan African countries (million US$)

Recently, a new trend has occurred since most developing countries is becoming the major sources of outward FDI. For example, China's outward FDI of mining industry in 2005 and 2006 accounted for 48% and 33%, TNCs of India in oil and gas industry obtained 19% of the total value of overseas acquisitions (WIR, 2007). The involvement of TNCs into mining industry of the host countries were undertaken by various types of agreement: joint ventures, production – sharing agreements and service contracts. **Table 1** FDI stock of South Africa.

Table 1: FDI stocks – South Africa (million Rand)

	1996	1997	1998	1999
FDI stock - mining	2897	3593	7269	114095
Total FDI stock	58708	89295	91862	318630
Percentage	4.93	4.02	7.91	35.81

Source: OECD, 2002a

2.2 Economic impact

There are many forms of TNCs involvement – equity sharing or contractual agreement (non-equity). Therefore, the economic impact is also varied depended on different type of business activities, different minerals and different stages of the value chain. The economic impacts also depend on the macro environment, market conditions and commodity prices[4].

1) Financial contributions

Income-generating effects can be considered as the most important impact exercised by a mining TNC on the host economy. Large-scale mining projects are usually capital-intensive which require the involving companies must possess high financial and technical capabilities. Most countries with rich natural resources are lack of funds and technology to exploit mineral deposits. The participation of TNCs helps to raise funds and necessary implementation. For example: The new mining sector policies in Ghana drive many foreign investors to the country and contribute over US$ 2 billion into mining sector during the last decade. The mining sector of Ghana now gains 41% of the foreign exchange with the contribution of gold and cocoa [3].

2) Technology contributions

For some projects which require high technology and not easy to accessible, developing countries have to rely on TNCs. Possessing innovation, knowledge and technological improvement from developed countries, TNCs tend to transfer them only to their affiliates, especially in most joint venture projects. Some developing countries can exploit their natural resources effectively with the acquisition of technology [4].

3) Employment impacts

At the macro level, the contribution of mining industry to employment is very modest. Due to its nature, mining projects tend to use capital-intensive and high technology to reduce labor force. In addition, expatriate workers from TNCs also participate in the implementation process that makes local people have less chance to be employed at senior level. **Figure 2** shows the employment trend of Ghana's mining industry from 1995 to 2005. There was a gradual reduction of local employees during this period due to the enhancing usage of new technology and the restructure of state-owned mines. However, the situation might be different in some cases. With large-scale projects, TNCs create more jobs for local people and offer improvement employment opportunities to produce qualified local engineers for the projects.

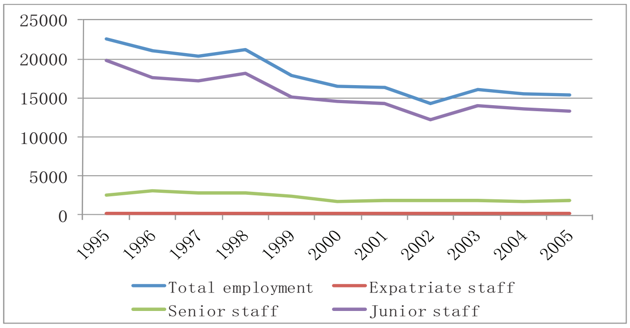


Figure2: Employment in Ghana's mining industry, 1995-2005

4) Generation of government revenue

High commodity price that leaded to the increase in mineral price is the main reasons of the considerable value of export earnings of developing countries. This will increase income for the host country, which is a form of government revenue. The value created will be shared between the host country and the TNC. This distribution reflects the bargain power of the host country and the TNC. Countries with minerals wealth and high capability to exploit them have better chance to achieve larger share. Governments can raise revenues by rent policy, taxes, levies or other payment through contractual agreements with TNCs [4]. In Ghana case, since 1990s, the country had enforced many generous policies such as, corporate income tax which stood at 45% in 1986 was reduced to 35% in 1994, royal rate from 6% reduced to 3% in 1987, reduction or dismissing of mineral duty (5%), import duty (5 – 35%) and foreign exchange tax (33 – 75%). These generous incentives brought considerable FDI flows to Ghana, particularly in gold mining sector which has the involvement of the largest number of investors [5].

5) Linkage effects

Linkage effects are the second most important impact of TNCs to the host countries. This includes backward linkages (demands for goods and services) and forward linkages (supplies input for other industries) [6]. Forward linkages in mining industry may involve various manufacturing activities, refining and smelting. For many reasons, the linkages between foreign partners and local firms in mining industry are usually weak: the availability, quality and cost of local inputs, lack of competitiveness of domestic firms.

2.3 Environmental impact

“Environment impacts can occur during all the phases of a mining project: exploration, disposal, ore processing and plant operation, tailings, infrastructure and construction” [4]. The environment impacts depend on the using technology, type of minerals, and location of the project as well as the other economic activities involved. Major environment challenges from mining industry are acid mine drainage, surface and ground water pollution, and loss of biodiversity.TNCs may reduce the adverse environmental impacts by applying environmentally friendly technologies. Moreover, the most important role belongs to the host countries. Their regulations and the institutional competence of government can reduce environment challenges and negative impact resulting from mining activities[5].

3. Investment Environment of the Mining Industry in China

3.1 General situations of mining resources conserving in China

Since the founding of the People's Republic, the broad masses of geological workers have been trudging mountains and rivers and going through the rigor of field work to search for mineral resources for the country and effectively carry out massive mineral exploration. There are more than 171 kinds of minerals that have been found since the end of 1997, of which there are nearly 154 kinds of minerals with large amount. There are 10 kinds of energy minerals, which include oil, natural gas, coal, uranium, subterranean heat, etc. There are almost 54 kinds of metallic minerals, including iron, manganese, cooper, aluminum, zinc, etc. There are 91 non-metallic minerals, including graphite, phosphorus, sulfur, potassium, etc, and 3 kinds of water minerals such as groundwater, mineral water, etc. There are almost 18000 places with mining resources, of which there are 7000 places with huge and mediate amount of mining resources. There are 25 kinds of mining resources which rates first three in the world among the main 45 mining resources. The amount of exploration of tungsten, coal, tin, stibium, tombarthite, magnesite, graphite and silicon, etc rate number one in the world. China is one of countries which have complete kinds of mining resources and also with huge amount among the world. The potential values of these resources rates the third, following the US and Russia [7].

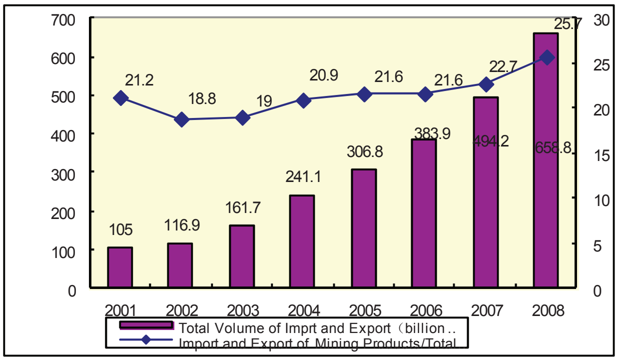
3.2 Current investment situation

1)The overall perspective of the Mining industry

From the perspective of industry structure upgrading procedure, currently China is at the beginning of the middle stage of industrialization process, this requires the industry structure evolutes towards the direction of enhancing basic industries and the construction of infrastructure. Mining is an essential industry which is in charge of supplying different resources to support industry construction and the industrial evolution procedure. China's mining industry experienced half century's development and it contributed a lot to its national economic growth, the main contributions are as following [8]:

1. It supplies 95% power resource and more than 80% raw materials to industry;
2. The development of mining strongly promoted regional economic development especially less developing regions such as minority areas and remote areas;
3. This industry stimulated the formation of more than 300 "mining cities" which in turn greatly promoted China's macro-economic development;
4. It created more than 21 million job opportunities involving mineral exploration and mining resource trade activities.

China's mining industry began to develop stably after the "open-door" policy in 1978; now following America China became the second largest mining country in the world. Compared with the year 2007, the import and export volume of mining products of the year 2008 increased 33%, which accounts for 25.7% of the whole import and export volume (**Figure 3**). China also made big progress in mining exploration, the investment in mining exploration maintained at a high level and the amount of the loan from government showed a trend to increase (the ministry of land and Resources P.R.C, 2009).

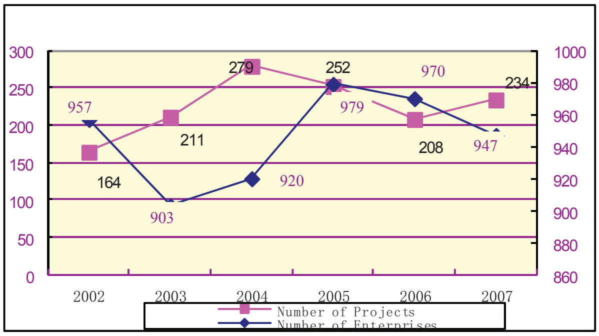


Source: The ministry of Land and Resources P.R.C, 2008

Figure 3: Import and Export of Mining Products

2)The overall situation of FDI in Mining industry

By the year 2007, there were 947 multinational companies registered in this sector and the overall investment volume is 9.6 billion US dollars. As to say the overall number of the projects, there were 234 contracts signed in 2007, we can see clearly from **Figure 4** that in the past few years, there were many foreign companies entering into this sector taking forms of cooperating with Chinese local companies or wholly foreign-owned companies. Another noticeable trend is the stable amount of inward FDI, in the year 2007, the actually utilized investment volume was 4894 million US dollars which was 1000 million more then the amount in year 2002[9].



Source: National Bureau of Statistics of China, 2008

Figure 4: Number of Projects and Foreign Enterprises in Mining Sector

What's more, China also made big progress in the reform of mining policy. Compared with the old mining policy, the revising edition of the new mining resource law encourages more joint-venture investment and cooperation exploration with transnational companies. Therefore, although the exploration sector is not completely open to multinational companies, the investors can take the form of cooperating with Chinese companies. The sign of gradually openness in mining sector indicates that although China's mining industry is not completely open to foreign companies, but in terms of its market size and market demand it's a big natural resource consumer which has potential market in the long run. In the year 2004, Chinese government also published a white paper on China's Mineral Resources Policy. There are four main purposes [9]:

1. China will increase the pace of reform to open up the mining industry further;
2. China will continue to increase mining production and promote international commodities;
3. China's government will continue to improve investment in the mining sector through the reform of the administrative examination and approval system;
4. China also plans to revive the mineral resources law to promote mineral exploration and protect the legal interests by introducing a clear and fair system of granting mineral titles. Any company set up in China may register at the ministry of Land and Resources for a prospecting license, subject to the conditions set out for geological prospecting. The license will be valid throughout China.

3.3 *Investment environment analyzing*

1）Policies and laws of Chinese mining industry

Policies and laws' factor of mining industry are parts of social and political factors in investment environment, which is the most necessary and sensitive factor to attract foreign investment, because it relates to the safety of capital investment and investors. There are several main facts that affect the political factors, which including host country's social institutions and political system, capability of Party in power, the steady of political situation, etc[10].Besides the macro-social and political environment of host countries, investors should also pay close attention to the adaptability, consistency and stability of host countries' mining policies because mining industry's investment is with high risks, high input and long cycles. However, these policies are reflected in terms of mining industry's laws [8].

1. There is superior political environment in China

National People's Congress System is the radical system of China. The NPC Standing Committee is the highest organ of state power and standing body of national legislature. The People's Republic of China, which is also called the central people's government, is Executive Agencies of the highest organ of State authority, and also the highest administrative organ of state. The chairman of PRC is the national sovereign of China, the highest representatives from both home and abroad. Central Military Committee is the highest military leadership institute, which leads and commands the national armed forces. The Supreme People's Court is the highest judicial organ of China, which is responsible for the National People's Congress and the Standing Committee. The Supreme People's Procuratorate is the highest investigating and prosecuting apparatus of China, also the national Supervisory Authority of laws, which main duties are to lead local people's procuratorate and the special people's procuratorate to carry out the function of supervision according to the laws of China, and guarantee the correct fulfillment of country's laws.

2. There are constant developing mining management and contiguous mining investment policies

In recent years, Chinese government and legislature did lots of positive works in consummating mining industry's managerial system and favorable policies from facing to high competitiveness in international economic and mining industry, which to some extent created favorable conditions for the openness of mining industry and attracting the foreign investment.

(1) Industrial policies.In 2002, Catalogue for Guidance of Foreign Investment was revised, which enlarges a scope of foreign investment, encourages foreign investors to conduct export-oriented enterprises. Foreign investors are also encouraged to invest in exploring mining resources of Non-Gasoline within China according to People's Republic of China's Mining Resources Laws and Catalogue for Guidance of Foreign Investment. Foreign investors are allowed to explore mining resources of Non-Gasoline in terms of single venture or joint ventures with Chinese partners. Foreign investors who pursue high risky exploration will be guaranteed with priority of exploring mining resources. It is allowed that foreign investors explore mining resources of Non-Gasoline with developed technology or equipment for stock participation. Foreign investors can make over its exploration rights of Non-Gasoline resources legally. Foreign investors have the same treatment with foreign single venture, joint ventures with Chinese partner or cooperation of Chinese-Foreigner companies.

(2) Financial policies.When companies of foreign investment are financing within China, Chinese commercial banks are allowed to accept guarantors of foreign shareholders. Foreign investors are allowed to apply for loaning from appointed banks of China in terms of foreign exchange collateral securities.Set up special industrial fund of investment to relieve lack of share capitals of Chinese partner when foreign investors increase their capital. Foreign investors are allowed to apply for loaning from Chinese banks in terms of providing mortgage with their properties abroad. Eligible foreign investors can apply for publish A shares or B shares. Foreign investors are provided with political risk insurances, insurances for performance of a contract, guaranty insurances, etc.

(3) Regional policies.Middle-western provinces, autonomous region and municipality directly under the central government make use of foreign investment's advantaged industries and programs to encourage the importation of equipments and its assorted technology which can not be produced domestically in terms of free import tariff and import linkage tax. Also, the industries that foreign investors invest in and the conditions that foreign investors required are broadened. For some encouraged foreign investment companies in the middle-west of China, they will be levied income tax at the rate of 15% after the current favorable policies are carried out for three years. Further more, the re-invested programs in middle-west areas of China by foreign investors can have a favorable treatment of foreign invested companies if the foreigner shares of investment are more than 25%. Last, foreign invested

companies in coastal areas are allowed to come to middle-western areas to contract with management and running foreign invested companies and local companies [9].

2） Tax factors

On 14 October 2003, a notice was published by the Ministry of Finance and State Administration of Taxation on the export tax reimbursement rate. According to the notice from 2004, tax reimbursement rates for most non-ferrous metal products have been reduced by 5 to 13% while export tax rebates for copper, aluminum, lead, zinc and tungsten will be annulled (World mining website, 2009). Tax rate is another essential factor which could influence the profit of foreign investment in this sector. Currently, China's mining law implements low-tax policy to foreign investment while some key sectors and certain regions can enjoy different level of tax preference. The main taxes include income tax, circulating tax, mining royalty, resource tax and mining resource compensation fee[11].

1. Income taxIncome tax is one of the main taxes, which is charged by certain rate of the whole income, most countries have different ways to confirm the base of income tax and the tax rate maybe the same as other industries. But mining companies can enjoy different kinds of preferences like accelerated depreciation of fixed assets and double amortization of R&D fee. However, compared with other countries, China's income tax rate is of medium level or slightly lower, and the calculating of the income tax base also lacks preferential treatment[12].

2. Value-added tax:Only some countries charge this tax or similar ones, however, after the tax policy reform in 1994, this tax became one of the main mining taxes in China. Value-added tax, consisting of 36.5% of the whole mining taxes, is also the main burden for mining companies. China's policy on this tax is totally different to other countries that mainly exert income tax. This could be an obvious disadvantage of Chinese mining sector's investment environment.

3. Resource tax:The main purpose of resource tax is to compensate the environmental cost during digging process and promote reasonable and environmental friendly exploitation. However, the scope of current resource tax is quite limited and doesn't have clear objects, even many nature resources like mining resource, forest resource and land resources are sharing the same and blurred tax system, also, resource tax has some overlap with royalty, the unclear defined tax items add some economic burden to investors.

4. Royalty:Under current Chinese mining resource law, the ownership and the management right are separated during the exploration process; hence the compensation fee or royalty for mining resource are two biggest taxes consisting of mining tax. Royalty is the fee that the mining explorer pays to the mining resource owner because the explorer explored and exhausted non-renewable resource.

Different country has different regulation based on mining law while China isn't in line with international standards from this aspect because its royalty system is based on tax law and the treasury department not the mining department is in charge of managing this tax. This brought many drawbacks, firstly, the treasury department doesn't have enough professional knowledge about the mining production activities such as exploration, exploitation, and digging, hence it's difficult for them to calculate and levy it in a proper method. Secondly, nearly all countries take most of this tax as part of the national financial revenue and the left part for mining R&D or environmental protection, but for China this tax distribution is relatively difficult since the tax is charged by wrong department and then it needs to be distributed to the deserved authority.

4. Conclusion

Based on the above analysis, we can see that although Chinese government is making every endeavor to its tax policy improvement, the current reform is not efficient enough and there are still many tax burdens both to local firms and international companies. The level of value-added tax is high and there are many overlaps among different tax items, current tax system also lacks of subsidy policy and enough tax deduction. Another noticeable problem is in order to prompt and help mining industry develop to an environmental friendly and develop sustainable industry, many country regards mining resource like coal as primary product and mining as primary industry, then to offer mining sector more tax preferences and technical assistance, however, China isn't in line with international standard from this aspect.

5. Acknowledgments

This study was funded by Chinese National Natural Science Foundation (Project Number:70803005) and the mining management Project of WWF-China. In particular, the authors thank Mr. Shi Jian and Mr. Si Kaichuang and Mr. Hu Chongde for their help in data collection.

References

[1]OECD, 2002c: OECD Global Forum on International Investment – Conference on FDI and the Environment, Business and Industry Advisory Committee Background Paper.

[2]Europa (2003) Transnational Corporations and Developing countries: Big business Poor peoples, The Courier ACP-EU.

[3]OECD, 2002a: OECD Global Forum on International Investment – Conference on FDI and the Environment, Environmental Impacts of FDI in the Mining sector in Sub-Saharan Africa.

[4]WIR (2007). World Investment Report 2007 – Transnational Corporation, Extractive Industries and Development, United Nations Publication.

[5]OECD, 2002b: OECD Global Forum on International Investment – Conference on FDI and the Environment, The role of FDI in the Mining sector of Ghana and the Environment.

[6]J. Carlsson (2005) The impact of mining TNCs on developing countries in Africa, Mineral & Energy – Raw Material Report 2005.

[7]Global Mining Mbendi (2009). Mining Industry Regulation in China- Overview.

[8]http://www.mbendi.com/indy/ming/govm/as/cj/p0005.htm (Accessed: 24/01 2010)

[9]Liu Hongming (2005). Research on Chinese investment environment. Journal of Tianjin Tearcher's Normal University, 1st period, page 52-58.

[10] China Mining Association. Main characteristics of China's Mineral Resources.http://www.chinamining.org/Facts/2006-09-19/1158645491d1229.html (Accessed: 24/01 2010).

[11] Hena, Yangfei (2003). The current investment environment analysis in China. Commercial Research, 13th period, Page91-92.

[12]]Price Water House Coopers (2008). Total tax contribution study of the global mining industry.

[13] Price Water House Coopers (2009). Mining Deals 2008 Annual Review, Mergers and acquisitions activities in the mining activity.